

Amendment to the Claims

1. (Currently Amended) A multi-axis chuck comprising:

a first portion including a substrate receiving surface and a first mating portion comprising a protruding curved track;

a second portion operatively coupled to the first portion, the second portion including a second mating portion and a third mating portion, wherein the second mating portion comprises a recessed curved track and mates with the first mating portion; and

a third portion operatively coupled to the second portion, the third portion including a fourth mating portion, wherein the third mating portion comprises a protruding curved track, the fourth mating portion comprises a recessed curved track and the fourth mating portion mates with the third mating portion; and

~~at least one motor that rotates the first portion and the second portion about a cutting region,~~

wherein the first portion is rotatable substantially about a first axis and the second portion is rotatable substantially about a second axis orthogonal to the first axis.

2. (Previously Presented) The multi-axis chuck of claim 1, further comprising:

a first degree scale located on one of the first portion and the second portion; and

a first degree indicator located on the other of the first portion and second portion that indicates on the first degree scale a number of degrees of rotation of the first portion about the cutting region.

3. (Cancelled)

4. (Previously Presented) The multi-axis chuck of claim 2, further comprising:
a second degree scale located on one of the second portion and the third portion; and
a second degree indicator located on the other of the second portion and third portion that indicates on the second degree scale a number of degrees of rotation of the first portion and the second portion about the cutting region.

5-11. (Cancelled)

12. (Previously Presented) The multi-axis chuck of claim 1, further comprising at least one sensor that senses at least one position of the first portion and the second portion.

13. (Original) The multi-axis chuck of claim 12, further comprising a controller that enables a user to rotate the first portion and the second portion about the cutting region using the at least one motor.

14. (Original) The multi-axis chuck of claim 13, wherein the controller stores a zero position for the first portion and the second portion and rotates the first portion and the second portion until the at least one sensor senses the zero position upon receiving a zero position command from the user.

15. (Original) The multi-axis chuck of claim 14, wherein the controller stores at least one position for the first portion and the second portion.

16. (Original) The multi-axis chuck of claim 13, wherein the controller enables the user to return the first portion and the second portion to the at least one position.

17. (Cancelled)
18. (Cancelled)
19. (Currently Amended) The multi-axis chuck of claim 1, wherein the substrate receiving surface is adapted to receive a substrate carrying a tissue specimen.
20. (Cancelled)
21. (Cancelled)
22. (Original) The multi-axis chuck of claim 1, wherein the first axis and the second axis intersect at a substantially fixed location adjacent the substrate receiving surface.
23. (Original) The multi-axis chuck of claim 1, wherein the first axis and the second axis intersect at a substantially fixed location on the substrate receiving surface.
- 24-29. (Cancelled)
30. (Currently Amended) A multi-axis microtome chuck, comprising:
a first portion including a substrate tissue receiving surface and a first curved mating surface, wherein the substrate receiving surface is configured to receive a substrate carrying a tissue specimen, the tissue receiving surface being and disposed at least partially within a cutting region;
a second portion operatively coupled to the first portion and including a second curved mating surface and a third curved mating surface, wherein the second curved mating surface is configured to slidably abut the first curved mating surface; and

a third portion operatively coupled to the second portion and including a fourth curved mating surface configured to slidably abut the third curved mating surface,

wherein the first and second curved mating surfaces are curved substantially about a first axis, and the third and fourth curved mating surfaces are curved substantially about a second axis, and

wherein the first portion is rotatable substantially about ~~[[a]]~~ the first axis and the second portion is rotatable substantially about ~~[[a]]~~ the second axis, wherein the second axis is substantially orthogonal to the first axis.

31. (Previously Presented) The multi-axis microtome chuck of claim 30, further comprising:

a first degree scale located on an exposed surface of one of the first portion and the second portion; and

a first degree indicator located substantially adjacent to the first degree scale on an exposed surface of the other of the first portion and the second portion that indicates a number of degrees of rotation of the first portion about the first axis relative to the second portion.

32. (Previously Presented) The multi-axis microtome chuck of claim 31, further comprising:

a second degree scale located on an exposed surface of one of the second portion and the third portion; and

a second degree indicator located substantially adjacent to the second degree scale on an exposed surface of the other of the second portion and the third portion that indicates a number of degrees of rotation of the second portion about the second axis relative to the third portion.

33. (Cancelled)

34. (Currently Amended) The multi-axis microtome chuck of claim 30 [[33]], wherein a protruding portion of the first curved mating surface is slidably received within a curved recessed track of the second curved mating surface.

35. (Cancelled)

36. (Currently Amended) The multi-axis microtome chuck of claim 30 [[35]], wherein a protruding portion of the third curved mating surface is slidably received within a curved recessed track of the fourth curved mating surface.

37. (Currently Amended) The multi-axis microtome chuck of claim 30 further comprising at least one motor configured to rotate the first portion [[and]] relative to the second portion about the cutting region.

38. (Previously Presented) The multi-axis microtome chuck of claim 37 further comprising at least one sensor that senses at least one position of the first portion and the second portion.

39. (Previously Presented) The multi-axis microtome chuck of claim 30 further comprising a locking mechanism configured to lock the first portion and the second portion such that relative rotation is prevented therebetween.

40. (Previously Presented) The multi-axis microtome chuck of claim 39, wherein the locking mechanism is a solenoid.

41. (Previously Presented) The multi-axis microtome chuck of claim 30, wherein the first axis and the second axis intersect at a substantially fixed location adjacent the tissue receiving surface.

42. (Previously Presented) The multi-axis microtome chuck of claim 30, wherein the first axis and the second axis intersect at a substantially fixed location on the tissue receiving surface.

43-48. (Cancelled)

49. (New) The multi-axis chuck of claim 1, further comprising a motor that rotates the first portion relative to the second portion about the first axis.

50. (New) The multi-axis chuck of claim 1, further comprising a motor that rotates the second portion relative to the third portion about the second axis.

51. (New) The multi-axis chuck of claim 1, further comprising:
a first motor that rotates the first portion relative to the second portion about the first axis;
and

a second motor that rotates the second portion relative to the third portion about the second axis.

52. (New) The multi-axis microtome chuck of claim 30 further comprising at least one motor configured to rotate the second portion relative to the third portion about the cutting region.